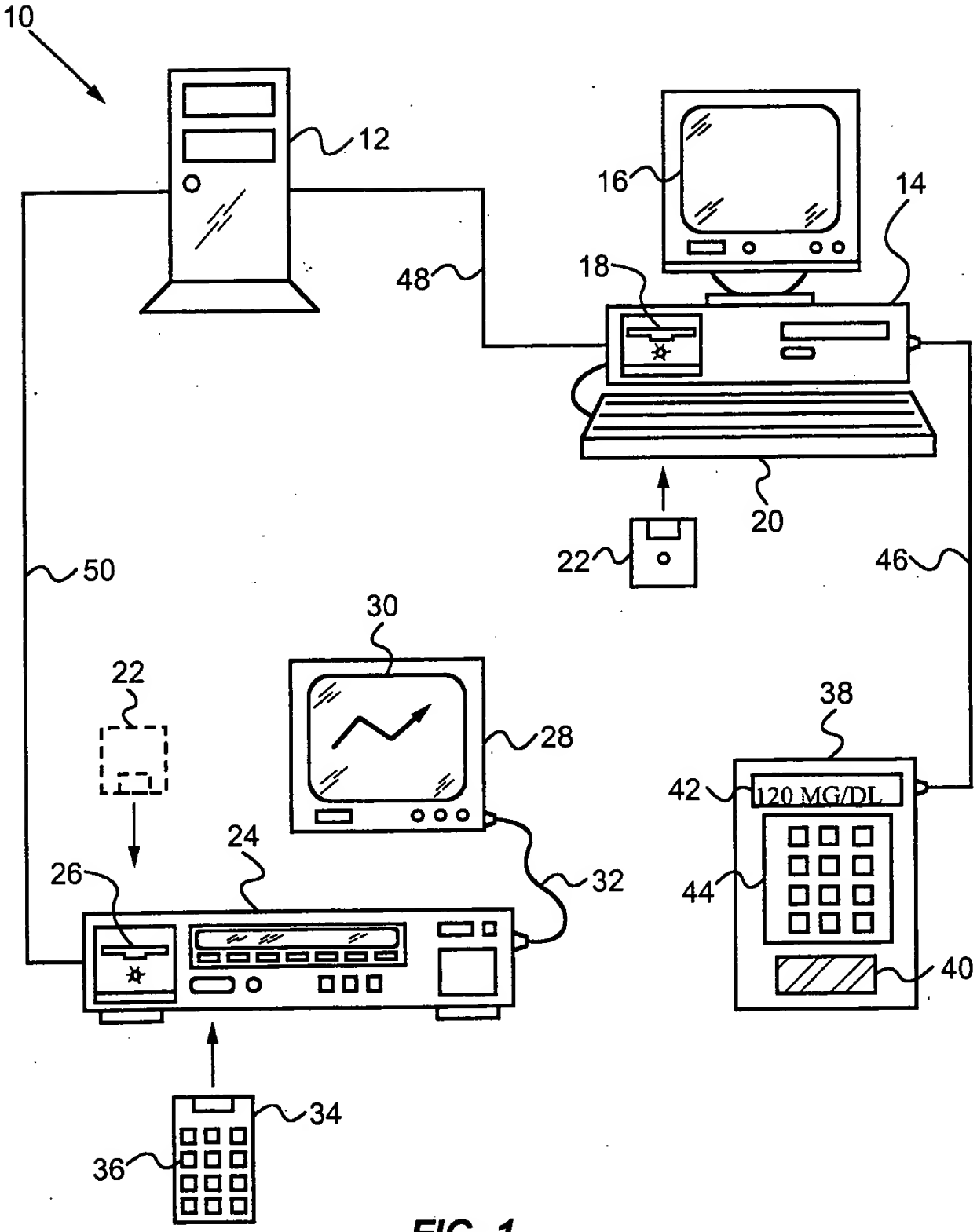
10
12
16
14
48
18
20
22
50
46
30
22
28
38
42
120 MG/DL
24
26
32
44
40
34
36

FIG. 1

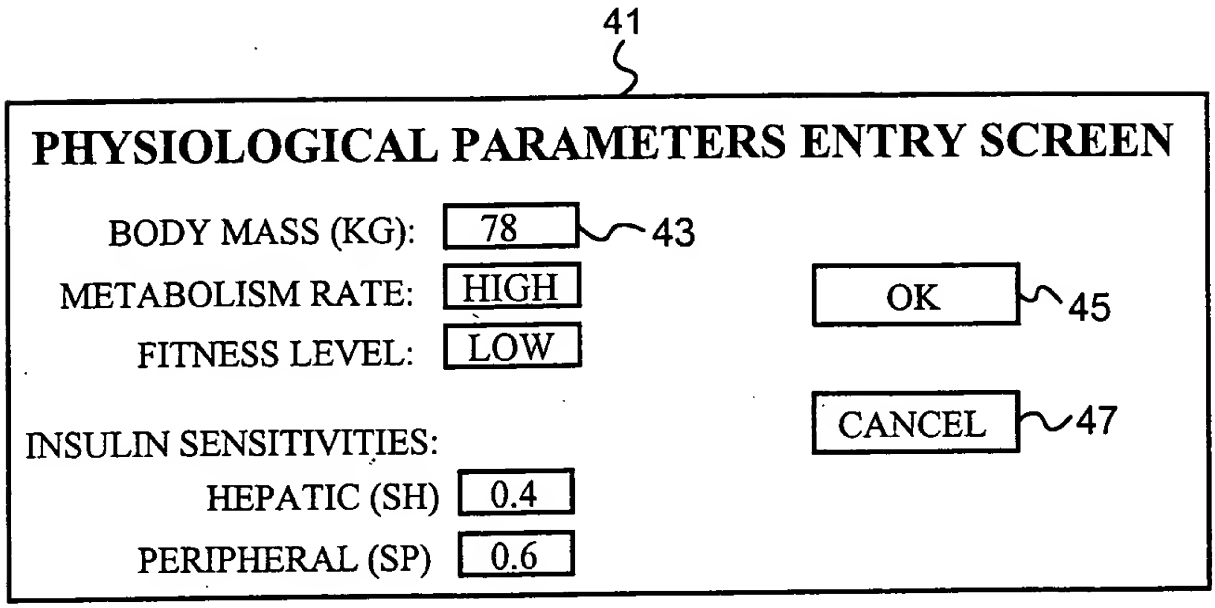
41
PHYSIOLOGICAL PARAMETERS ENTRY SCREEN
BODY MASS (KG): 78
43
METABOLISM RATE: HIGH
FITNESS LEVEL: LOW
OK
45
CANCEL
47
INSULIN SENSITIVITIES:
HEPATIC (SH) 0.4
PERIPHERAL (SP) 0.6

FIG. 2

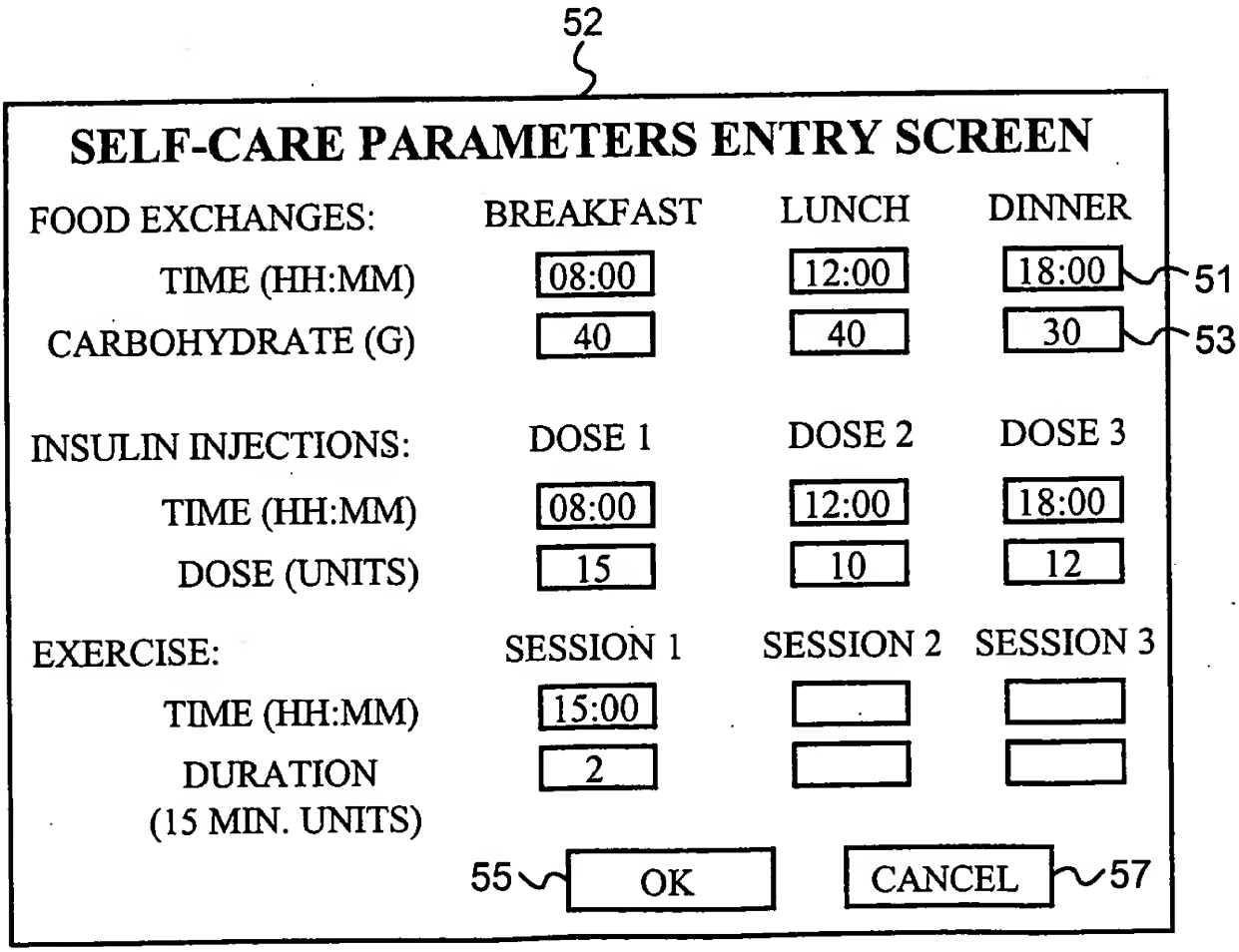
52
SELF-CARE PARAMETERS ENTRY SCREEN
FOOD EXCHANGES:
BREAKFAST
LUNCH
DINNER
TIME (HH:MM)
08:00
12:00
18:00
51
CARBOHYDRATE (G)
40
40
30
53
INSULIN INJECTIONS:
DOSE 1
DOSE 2
DOSE 3
TIME (HH:MM)
08:00
12:00
18:00
DOSE (UNITS)
15
10
12
EXERCISE:
SESSION 1
SESSION 2
SESSION 3
TIME (HH:MM)
15:00
DURATION (15 MIN. UNITS)
2
55
OK
CANCEL
57

FIG. 3

56

t	R(t)	X(t)	$S_1(t) - O_1(t)$	$S_2(t) - O_2(t)$	$S_3(t) - O_3(t)$	K_1	K_2	K_3
8:00	80	80	0	0	0	4	-40	-5
10:00	160	160	0	0	0	4	-40	-5
12:00	100	100	0	0	0	4	-40	-5
15:00	140	140	0	0	0	4	-40	-5
18:00	100	100	0	0	0	4	-40	-5
20:00	180	180	0	0	0	4	-40	-5
22:00	120	120	0	0	0	4	-40	-5

FIG. 4

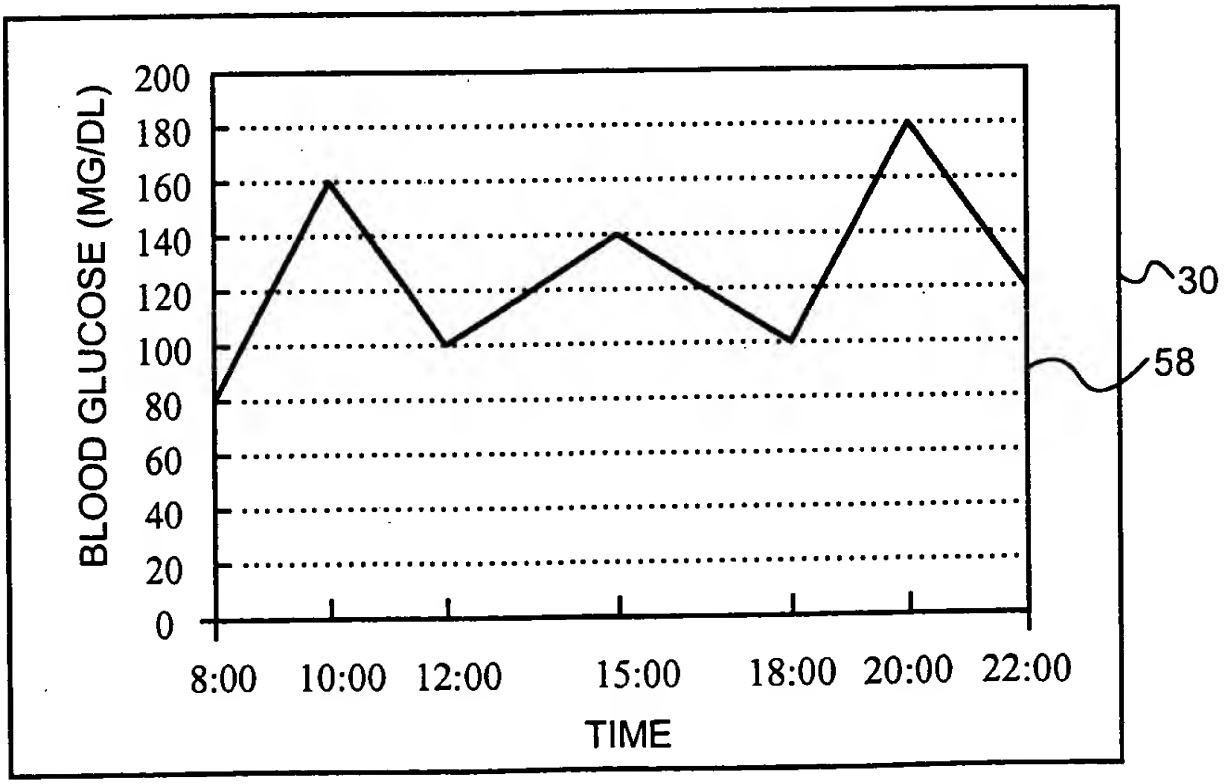

FIG. 5

59

t	R(t)	X(t)	$S_1(t) - O_1(t)$	$S_2(t) - O_2(t)$	$S_3(t) - O_3(t)$	K_1	K_2	K_3
8:00	80	80	10	0	0	4	-40	-5
10:00	160	200	0	0	0	4	-40	-5
12:00	100	140	0	0	0	4	-40	-5
15:00	140	180	0	0	4	4	-40	-5
18:00	100	120	0	0	0	4	-40	-5
20:00	180	200	0	0	0	4	-40	-5
22:00	120	140	0	0	0	4	-40	-5

FIG. 6

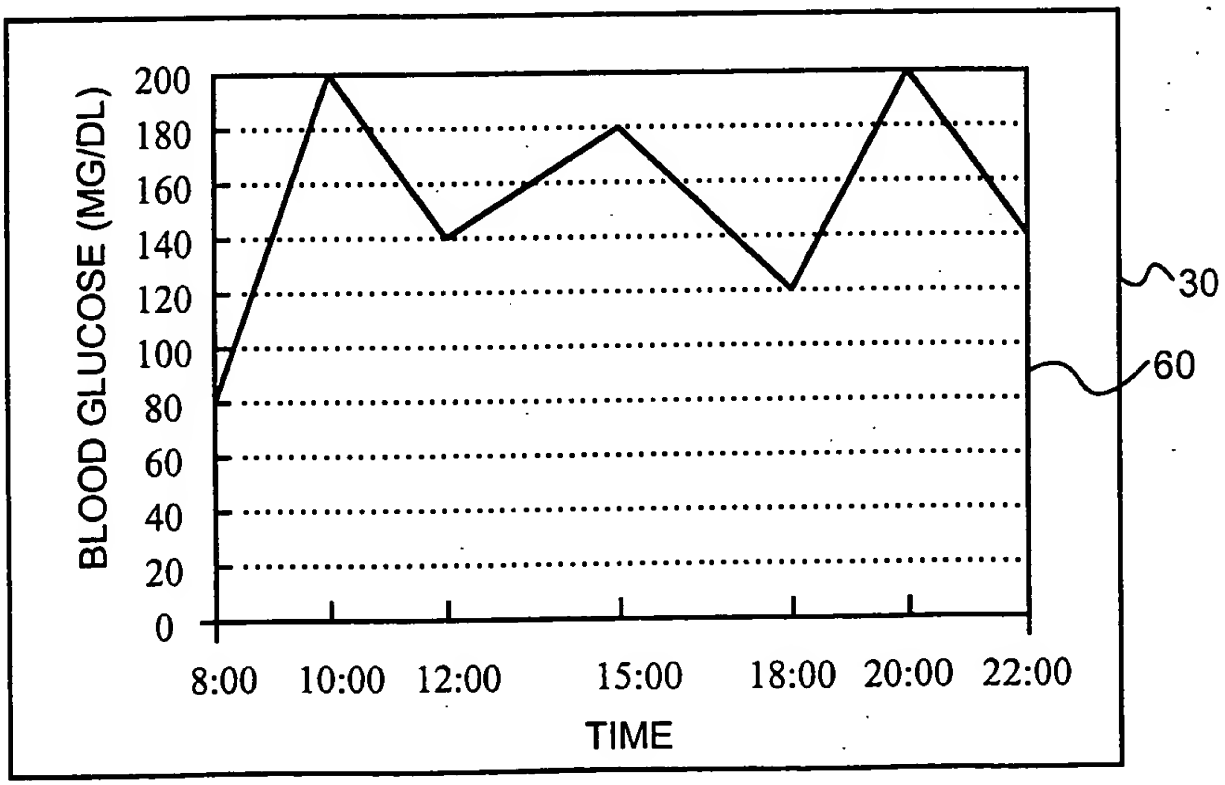

FIG. 7

61

t	R(t)	X(t)	$S_1(t) - O_1(t)$	$S_2(t) - O_2(t)$	$S_3(t) - O_3(t)$	K_1	K_2	K_3
8:00	80	80	10	0	0	4	-40	-5
10:00	160	200	0	1	0	4	-40	-5
12:00	100	100	0	0	0	4	-40	-5
15:00	140	140	0	0	4	4	-40	-5
18:00	100	80	5	0	0	4	-40	-5
20:00	180	180	0	0	0	4	-40	-5
22:00	120	120	0	0	0	4	-40	-5

FIG. 8

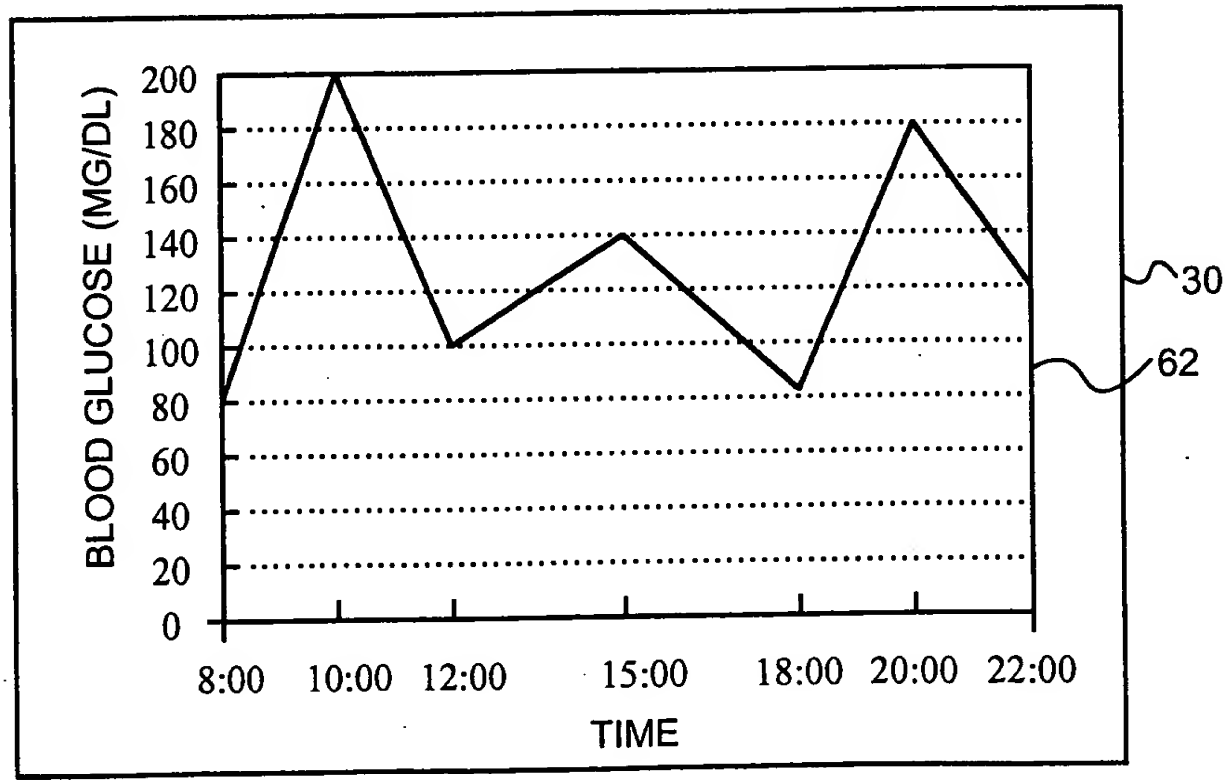

FIG. 9

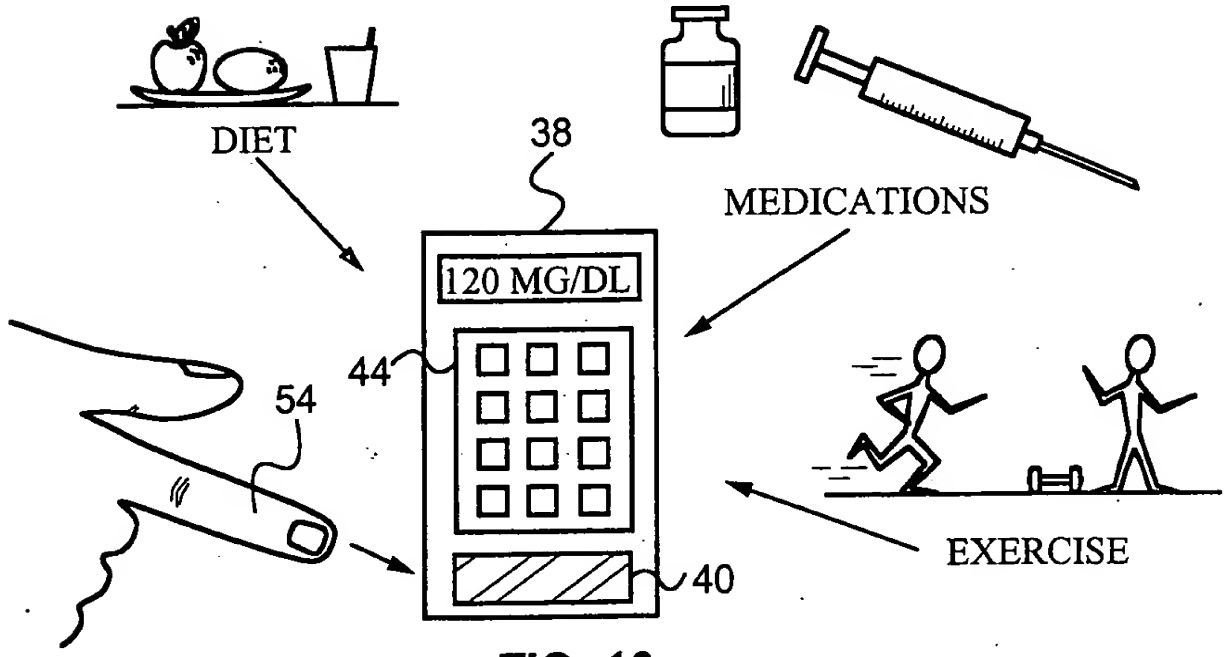

FIG. 10

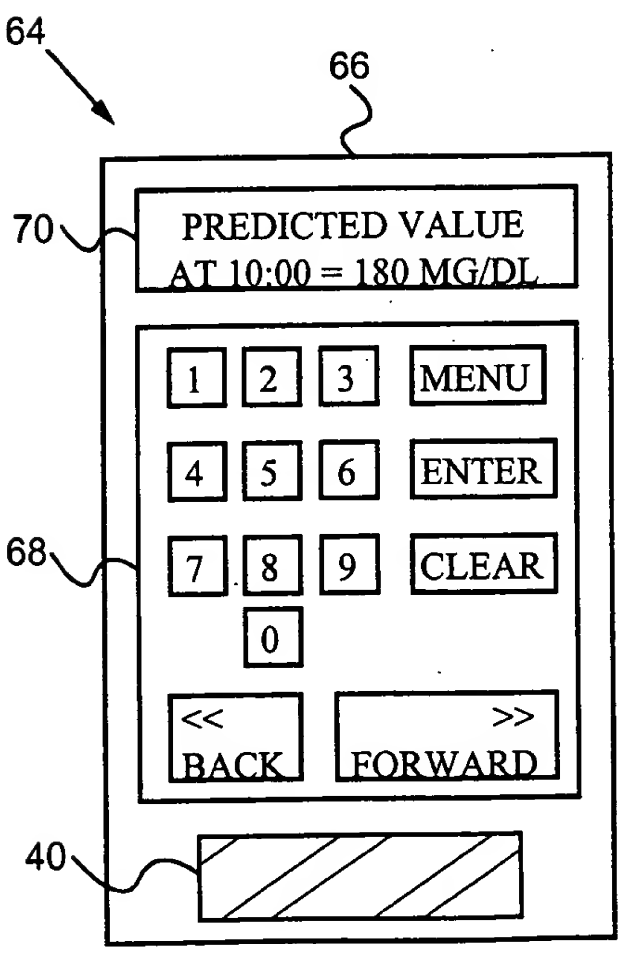

FIG. 11

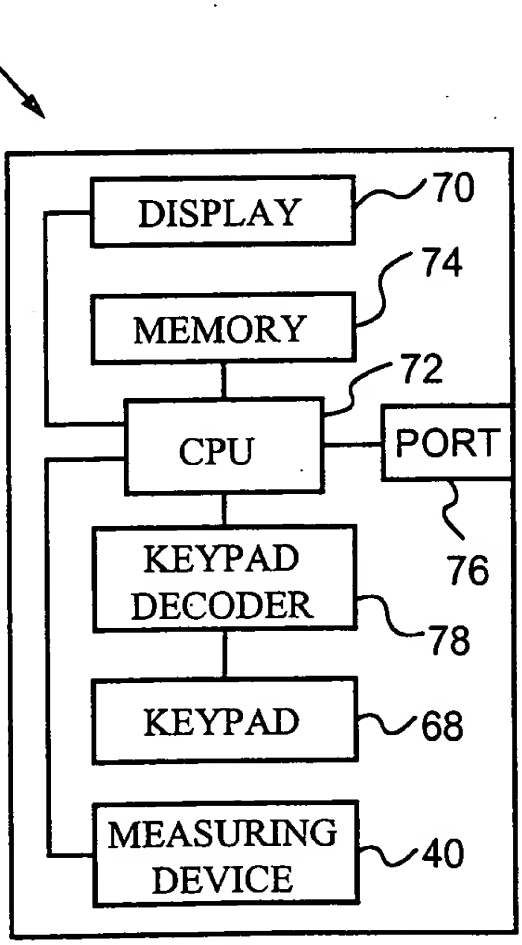

FIG. 12

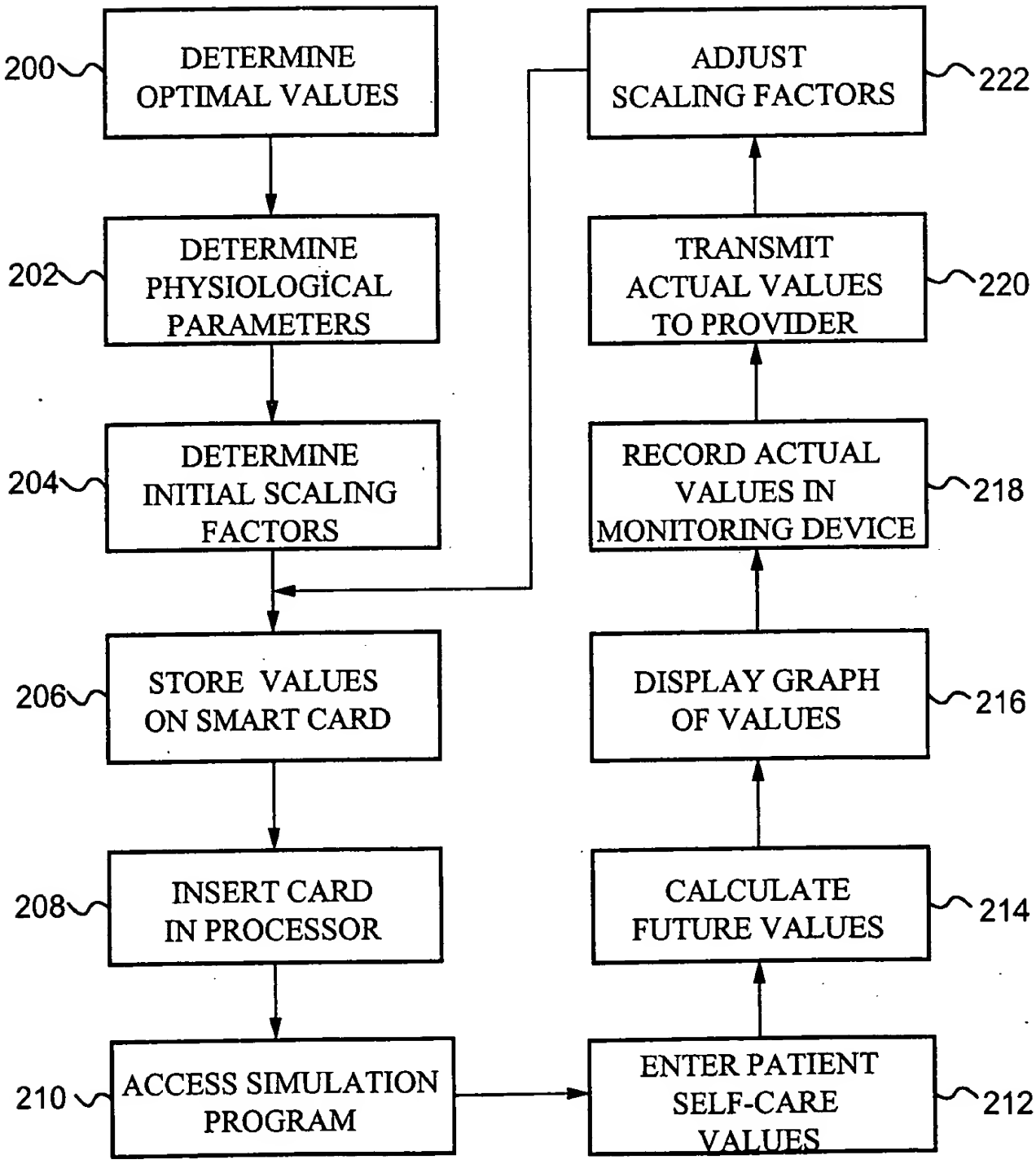
200
DETERMINE OPTIMAL VALUES
202
DETERMINE PHYSIOLOGICAL PARAMETERS
204
DETERMINE INITIAL SCALING FACTORS
206
STORE VALUES ON SMART CARD
208
INSERT CARD IN PROCESSOR
210
ACCESS SIMULATION PROGRAM
212
ENTER PATIENT SELF-CARE VALUES
214
CALCULATE FUTURE VALUES
216
DISPLAY GRAPH OF VALUES
218
RECORD ACTUAL VALUES IN MONITORING DEVICE
220
TRANSMIT ACTUAL VALUES TO PROVIDER
222
ADJUST SCALING FACTORS

FIG. 13

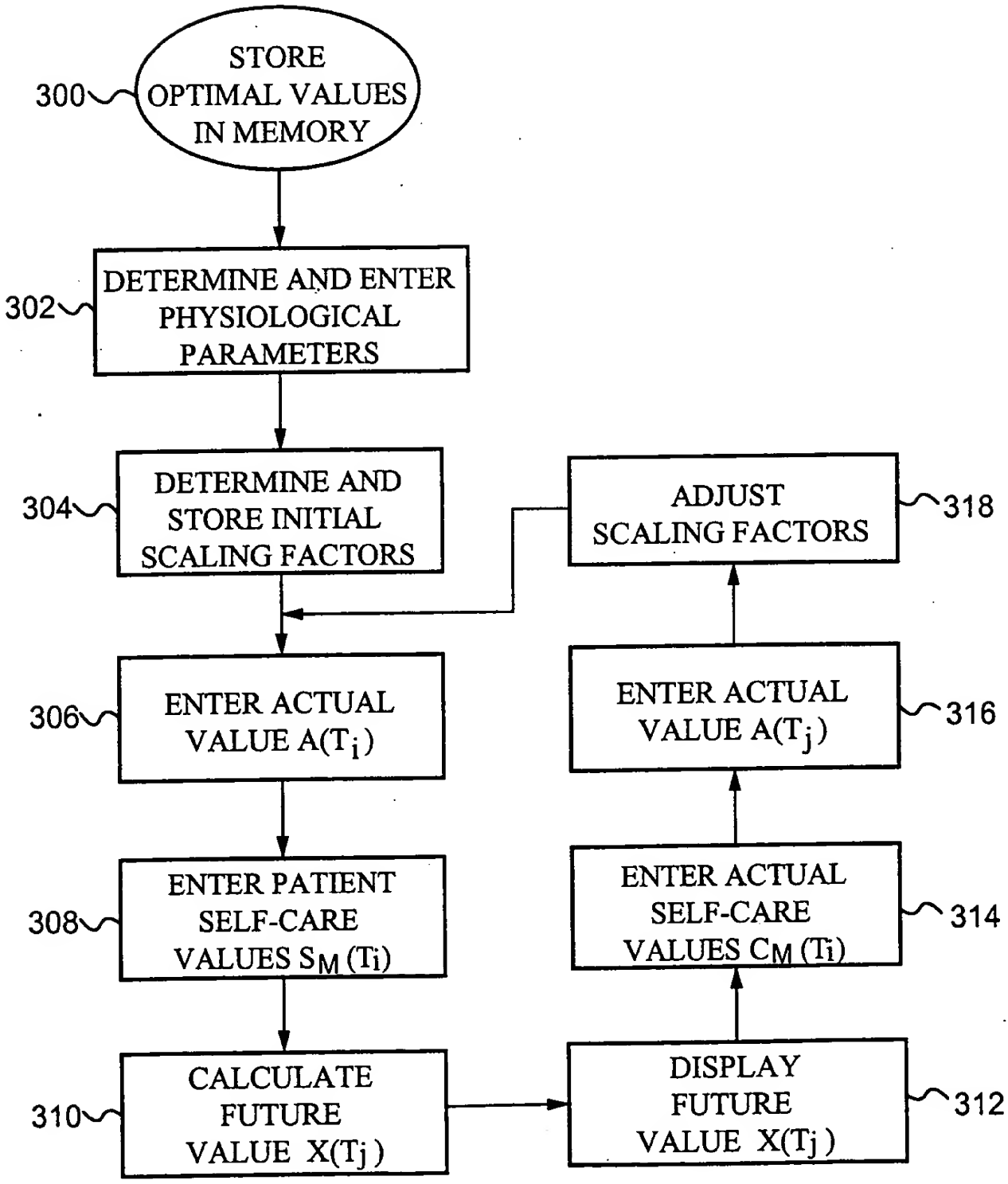
STORE OPTIMAL VALUES IN MEMORY
300
DETERMINE AND ENTER PHYSIOLOGICAL PARAMETERS
302
DETERMINE AND STORE INITIAL SCALING FACTORS
304
ENTER ACTUAL VALUE A(Ti)
306
ENTER PATIENT SELF-CARE VALUES SM (Ti)
308
CALCULATE FUTURE VALUE X(Tj)
310
DISPLAY FUTURE VALUE X(Tj)
312
ENTER ACTUAL SELF-CARE VALUES CM (Ti)
314
ENTER ACTUAL VALUE A(Tj)
316
ADJUST SCALING FACTORS
318

FIG. 14